

Standardisation of morphological types of intraparenchymal distribution of the hepatic veins – III. Right hepatic veins

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The right hepatic vein is the most important vein of liver's efferent pedicle, both due to its size and to the volume of the drained parenchyma. It is situated in the plane of the right portal fissure between the medial and the right lateral division. The most often encountered is the presence of the right hepatic vein as a unique vein. Sometimes, in the plane of the right portal fissure may appear an inferior right hepatic vein and a middle right hepatic vein (usually of smaller sizes). We analyzed and standardized the morphological types of the right hepatic veins on a study material of 150 hepatic corrosion casts. They were made by injecting with plastic (AGO II paste and TECHNIVIT 7143) of the hepatic vasculo-ductal systems, followed by corrosion of the hepatic parenchyma with hydrochloric acid. In standardizing the morphological types of the right hepatic veins we considered three parameters: the general aspect of the venous trunk (long or short), the number of affluents of origin and their length. The superior right hepatic vein, having a constant presence (100%), is the largest collector in the plane of the right portal fissure. Considering both the sizes and the number and position of the affluents of the trunk of the right hepatic vein, as well as the modality of collecting of the right postero-superior vein and of the right transverse vein, there are three morphological types of spatial distribution of the right hepatic vein: Type I (65.33% cases), with a long, well individualized venous trunk, receiving into its distal portion the right antero-lateral vein and the right antero-medial trunk; Type II (24.67% cases), with a short venous trunk, formed by the confluence of the right anterior trunk with the right transverse trunk; Type III (10% cases), with a short venous trunk, formed by the confluence of the right anterior transverse vein with the left transverse vein. The inferior right hepatic vein was found in 10.67% cases. The middle right hepatic vein was found in 4% cases and in all cases where it was present it was the smallest of all. According to the number of the right hepatic veins found, we analyzed the modality of venous segmentation of the right part of the hepatic parenchyma and noticed that: in 89.33% cases there is only a single right hepato-venous segment, in 8% cases there are two right hepato-venous segments (a superior and an inferior one), and in 2.67% cases there are three right hepato-venous segments (superior, middle and inferior), according to the number of right hepatic veins present in the plane of the right portal fissure. Knowing these aspects of venous drainage of hepatic parenchyma could facilitate planning hepatic resection and transplant surgery.

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Repeated, brief seizures induce long-lasting rearrangement of ionotropic glutamate receptor subunits in the rat hippocampus

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Repeated, brief epileptic seizures were induced with intraperitoneally injected 4-aminopyridine (4-AP) in adult Wistar rats, for two weeks, on a daily basis. The symptoms were observed carefully and evaluated on the Racine's scale. One day after the last injection and seizure, rats were decapitated in deep anesthesia, the brains were frozen in liquid nitrogen, and sectioned in the horizontal plane. Another group of rats were observed for two more weeks, without 4-AP injections, and decapitated as written above. The 15 µm thin sections were blotted onto nitrocellulose membranes, the membranes were fixed and the proteins detected with immunohistochemical method, using alkaline phosphatase-labeled secondary antibodies. The following subunit antibodies were used: NR1, NR2A, NR2B, GluR1, GluR1 flop, GluR2, pan-AMPA (GluR 1-4, recognizing every AMPA subunit), and KA2. The immunostained membranes were scanned, and different layers of the hippocampus and neocortex were analyzed with densitometry. Hippocampi were also stained with a modified Timm's stain, and the stained area has been